

2. ADDITIONAL NOTES ON THE DIET OF SLOTH BEAR *MELURSUS URSINUS* IN MUDUMALAI TIGER RESERVE AS SHOWN BY SCAT ANALYSIS

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The Sloth Bear *Melursus ursinus* is a widely distributed omnivore, endemic to the Indian subcontinent. It is a medium-sized mammal weighing between 127 and 145 kg (Prater 1965). Very few studies on its food habits in the Subcontinent have been carried out; Mudumalai (Baskaran *et al.* 1997; Desai *et al.* 1997), Mundanthurai plateau (Gokula *et al.* 1995), Bandipur Tiger Reserve (Johnsingh 1981), Neyyar Wildlife Sanctuary (Srikumaran and Balakrishnan 2002), Panna Tiger Reserve (Yoganand *et al.* 2005), Bandhavgarh Tiger Reserve (Gopal 1991), Chitwan National Park (Laurie and Seidensticker 1977; Joshi *et al.* 1997) and Wilpattu National Park (Eisenberg and Lockhart 1972). The Sloth Bear is a well-known seed disperser, which influences the regeneration of some plant species (Srikumaran and Balakrishnan 2002). Consequently, its movement depends largely on the density

and distribution of its key food availability in the area. Sloth Bear population is declining in many parts of its range due to deterioration and loss of habitat (Johnsingh 2003).

Mudumalai Tiger Reserve (11° 32'-11° 43' N; 76° 22'-76° 45' E) is situated at the tri-junction of Tamil Nadu, Karnataka, and Kerala states at an elevation that varies from 960 to 1,266 m. This 321 sq. km reserve is bounded by Wayanad Wildlife Sanctuary on the west, Bandipur Tiger Reserve in the north, and in the south by Nilgiri North Forest Division. According to Champion and Seth (1968), the vegetation types found in Mudumalai are classified into Southern Tropical Dry Thorn Forest, Southern Tropical Dry Deciduous Forest, Southern Tropical Moist Deciduous Forest, Southern Tropical Semi-Evergreen Forest, Moist Bamboo Brakes and Riparian Forest. Earlier studies on food habits of

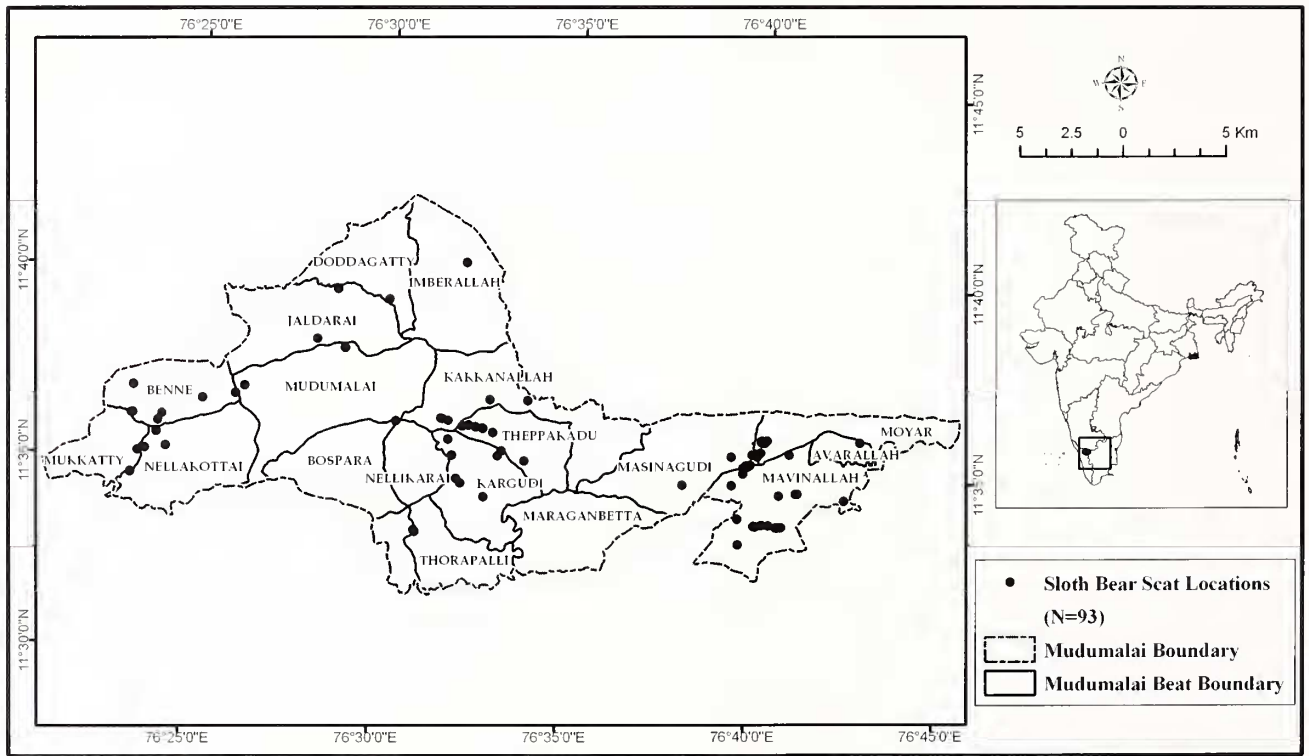


Fig. 1: Locations of Sloth Bear scats collected in Mudumalai Tiger Reserve (January-May 2009)

**Table 1:** Frequency and percent occurrence of food items found in Sloth Bear scats in Mudumalai Tiger Reserve (January-May 2009)

Plants	Frequency of occurrence	Percent occurrence
<i>Albizzia odoratissima</i>	2	1.0
<i>Anogeissus latifolia</i>	2	1.0
<i>Artocarpus heterophyllus</i>	2	1.0
<i>Cassia fistula</i>	26	13.83
<i>Cordia oblique</i>	12	6.38
<i>Ficus</i> sp.	2	1.0
<i>Grewia tilifolia</i>	4	2.1
<i>Lagerstromia microcarpa</i>	1	0.5
<i>Lantana camara</i>	4	2.1
<i>Mangifera indica</i>	1	0.5
<i>Olea glandulifera</i>	1	0.5
<i>Semicarpus anacardium</i>	1	0.5
<i>Syzygium species</i>	2	1.0
<i>Zizyphus mauritiana</i>	16	8.51
<i>Zizyphus oenopia</i>	2	1.0
<i>Zizyphus rugosa</i>	2	1.0
<i>Heteropogon contortus</i>	1	0.5
<i>Seteria intermedia</i>	2	1.0
Unidentified fruit	1	0.5
<b>Others</b>		
Family: Formicidae (Red Ant)	30	15.9
Family: Formicidae (Black Ant)	12	6.3
<i>Odontotermes</i> sp.	33	17.5
Order: Coleoptera (Beetle)	6	3.1
<i>Apis</i> sp. and wax	18	9.5
<i>Cervus unicolor</i>	5	2.6

Sloth Bear in Mudumalai (Baskaran *et al.* 1997; Desai *et al.* 1997) were conducted in deciduous and scrub habitats. The present study was carried out in the entire Park covering deciduous, scrub and semi-evergreen habitats in Mudumalai.

Ninety-three Sloth Bear scats were collected along forest roads and trails in the Park encountered from January to May 2009. The location of scats collected is given in Fig. 1. The scats were distinguished by their size, shape, composition of seeds and animal remains, and by using indirect evidences (track, signs). Each scat sample was taken in a separate polythene bag with details of date, place, condition (fresh, old), habitat, and GPS location. The scats were washed in running water using a mesh sieve (1 x 1 mm) and sun dried to recover seeds and animal matter. The plant

remains were compared with seeds obtained from plants in the field and identified in the herbarium of the Wildlife Institute of India. Animal remains (bone, hair, insect parts) were identified in the laboratory of the Wildlife Institute of India. The percentage occurrence of various plant and animal remains were assessed.

The frequency and percent occurrence of food items found in Sloth Bear scats is given in Table 1. Thirty-five scats contained plant matter along with animal remains, 40 scats contained only animal matter, and 18 scats contained bee wax remains. A total of 18 plant species were recorded in scats. *Cassia fistula*, *Zizyphus mauritiana*, and *Cordia obliqua* constituted the bulk of the diet with each species contributing 13.83, 8.51 and 6.38% respectively. Two grass species, *Heteropogon contortus*, *Seteria intermedia*, and an unidentified fruit was also recorded. Animal matter in the scats composed mainly of red and black ants (Formicidae), termites *Odontotermes* sp. and bees *Apis* sp. with wax, which constituted 15.9, 6.3, 17.5 and 9.5% respectively. Beetles (Coleoptera) and Sambar *Cervus unicolor* remains (bone, hair) formed a small fraction, 3.2 and 2.7% respectively (Table 1).

The present study documented eight new plant species including a grass species, *Albizzia odoratissima*, *Artocarpus heterophyllus*, *Ficus* sp., *Lagerstromia microcarpa*, *Mangifera indica*, *Olea glandulifera*, *Syzygium* sp., and *Heteropogon contortus*, which were not reported from earlier studies in Mudumalai (Baskaran *et al.* 1997; Desai *et al.* 1997). The percent occurrence of animal matter was found higher than plant matter as compared to previous studies (Gokula *et al.* 1995; Baskaran *et al.* 1997; Desai *et al.* 1997). The occurrence of Sambar remains in Sloth bear scats may be attributed to scavenging behaviour over decayed carcass of wild animals, which has already been recorded by Gopal (1991).

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### 3. MYSTERIOUS CHARACTERS RECORDED IN BLACK-HEADED IBIS *THRESKIORNIS MELANOCEPHALUS* DURING BREEDING SEASON

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On May 23, 2008, while on a visit to a breeding site of Black-headed Ibis at Paldi village, situated 8 km north of Visnagar, Gujarat, India, we observed three pairs of the Bird busy selecting their nesting site. On approaching closer, we observed red coloration on the bare hind neck of one bird (Fig. 1). Similar coloration was recorded on May 29, 2008, in a bird in a flock of 44 birds at a breeding site at Ralisana village. On June 14, 2008, we observed two birds with red lores and scattered red spots on the throat, besides a red hind neck and mantle, building their nest at Civil Hospital, Visnagar.

During the breeding season, we observed 93 pairs, out of which 17 birds with a red hind neck and mantle, and 3 birds with red lores and scattered red spots on the throat were recorded. The breeding plumage of Black-headed Ibis



Fig. 1: Black-headed Ibis with mysterious characters

is well described in literature (Grimmett *et al.* 1998; Gadhvi 2001; Ali 2002; Kumar *et al.* 2005) and there is no mention of any red coloration on body parts during the breeding season.

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